

CLAIMS

1. (currently amended) A receiver, comprising:

a radio frequency (RF) front end;

an ultra-wideband pulse detector, said pulse detector operatively coupled to said RF front end; and

a data recovery unit operatively coupled to said pulse detector, said data recovery unit configured to receive spread spectrum RF signals modulated by on-off keying and pulse amplitude modulation ~~having different modulation methods.~~

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (currently amended) A receiver, comprising:

a radio frequency (RF) front end;

an ultra-wideband pulse detector, said pulse detector operatively coupled to said RF front end; and

a data recovery unit operatively coupled to said pulse detector, said data recovery unit configured to receive spread spectrum RF signals having different pulse repetition frequencies and modulated by pulse amplitude modulation.

6. (cancelled)

7. (original) The receiver of claim 6 wherein said data recovery unit is configured to receive signals modulated by on-off keying.

8. (cancelled)

9. (cancelled)

10. (previously presented) The receiver of claim 6 wherein said data recovery unit further comprises a phase locked loop module, said phase locked loop module configured to detect changes in a pulse sampling rate.

11. (original) The receiver of claim 10 wherein said data recovery unit further comprises a divider module coupled to said phase locked loop module, said divider module configured to determine when to sample an incoming signal.

12. (original) The receiver of claim 6 wherein said data recovery unit further comprises an analog digital converter operatively coupled to said pulse detector, said analog digital converter configured to generate digital output signals.

13. (original) The receiver of claim 12 wherein said data recovery unit further comprises a decoder operatively coupled to said analog digital converter, said decoder configured to receive said plurality of digital output signals and convert said plurality of digital output signals to symbols having one or more bit values.

14. (previously presented) A network of transceiver node devices comprising:

a first slave transceiver having a receiver configured to receive ultra-wideband spread spectrum signals;

a second slave transceiver configured to communicate with said first slave transceiver;
and

a master transceiver in communication with said first slave transceiver and said second slave transceiver, said master transceiver configured to manage data transmissions and synchronization between the said first slave transceiver and said second slave transceiver.

15. (original) The network of transceiver node devices as recited in claim 14 wherein said master transceiver further comprises a master receiver including a radio frequency (RF) front end, a pulse detector operatively coupled to said RF front end, and a data recovery unit configured to receive spread spectrum RF signals having different modulation methods.

16. (original) The master transceiver recited in claim 14 wherein said master receiver is configured to receive signals modulated by on-off keying.

17. (original) The network of transceiver node devices as recited in claim 14 wherein said master transceiver further comprises a master receiver including a radio frequency (RF) front end, a pulse detector operatively coupled to said RF front end, and a data recovery unit configured to receive spread spectrum RF signals having variable pulse repetition frequencies.

18. (original) The master transceiver recited in claim 17 wherein said master receiver is configured to receive signals having different modulation methods.

19. (original) The master transceiver recited in claim 18 wherein said master receiver is configured to receive signals modulated by on-off keying.

20. (original) The network of transceiver node devices recited in claim 14, wherein said first slave transceiver is configured to communicate as said master transceiver.

21. (withdrawn) An ultra wide band Medium Access Control (MAC) layer, comprising:

a time division multiple access frame comprising a plurality of slots, with each slot configured to receive at least one ultra wide band pulse.

22. (withdrawn) The ultra wide band Medium Access Control (MAC) layer of claim 21, wherein an ultra wide band pulse repetition frequency varies between different slots.

23. (withdrawn) The ultra wide band Medium Access Control (MAC) layer of claim 21, wherein an ultra wide band pulse position varies between different slots.

24. (withdrawn) The ultra wide band Medium Access Control (MAC) layer of claim 21, wherein an ultra wide band pulse amplitude varies between different slots.

25. (withdrawn) An ultra wide band Medium Access Control (MAC) communication method, the communication method comprising the steps of:

providing a time division multiple access frame comprising a plurality of slots;

placing at least one ultra wide band pulse in at least one slot; and

varying an ultra wide band pulse repetition frequency between different slots.

26. (withdrawn) An ultra wide band Medium Access Control (MAC) communication method, the communication method comprising the steps of:

providing a time division multiple access frame comprising a plurality of slots;

placing at least one ultra wide band pulse in at least one slot; and

varying an ultra wide band pulse position between different slots.